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10/761,419	01/22/2004	Dragan Petrovic	L7725.04101	3208
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,419

Applicant(s)

PETROVIC ET AL.

Examiner

NAM HUYNH

Art Unit

2617

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-23, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-23, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed on 11/24/08. Of the previously presented claims 15-27; claims 15, 20-22, and 26 have been amended and claims 24 and 25 have been cancelled.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkkinen et al. (US 2005/0063347) (hereinafter Sarkkinen) in view of Chang et al. (US 2003/0016698) (hereinafter Chang).

Regarding claim 15, Sarkkinen teaches a radio network of a communication system, said radio network including at least one radio network controller (RNC) for controlling a plurality of base stations in communication with mobile terminals, wherein the RNC communicates with a mobile terminal using a radio link control (RLC) procedure, and the base station communicates with the mobile terminal using a medium access control (MAC) procedure, comprising the steps of (paragraph 113):

a priority queue in the base station, associated to the MAC procedure (link for UEz) are used by more than one RLC procedure (RLC for buffer v and RLC for buffer u) for communication between the RNC and the mobile terminal (paragraph 113; figure 13).

However, Sarkkinen does not explicitly teach:

a method of retransmission protocol reset synchronization

performing an RLC reset procedure by an RLC sending entity;

and

initiating a MAC reset procedure in response to an RLC reset procedure (paragraph 76),

a reordering buffer in the mobile terminal,

MAC PDUs associated to the RLC procedure, which is reset, and remaining in the soft buffer, reordering buffer in the mobile terminal and in the priority queue in the base station are flushed, and

MAC PDUs associated to other RLC procedures, which are not reset and remaining in the soft buffer, reordering buffer in the mobile terminal and in the priority queue in the base station are not flushed.

Chang teaches:

performing an RLC reset procedure by an RLC sending entity (paragraph 76);
and

initiating a MAC reset procedure in response to an RLC reset procedure (paragraph 76),

a reordering buffer in the mobile terminal (receiver memory);

MAC protocol data units (PDUs) associated to the RLC procedure, which is reset, and remaining in the soft buffer, reordering buffer in the mobile terminal and in the priority queue in the base station are flushed, (paragraphs 76, 79, and 88).

the MAC reset procedure with partial priority queue flush in the base station is initiated when receiving a MAC PDU with predefined inband identification (paragraph 81; UE-ID; figure 14, 15) and a reset identification (RID) field (paragraph 82; figure 15, signaling indication) comprising logical channel information (paragraph 81; figure 15, C/T).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify then invention of Sarkkinen to include the capability to implement the RLC reset procedure, as taught by Chang, in order to prevent unnecessary transmission/retransmission upon occurrence of an unrecoverable error in one of the RLC layers.

Furthermore, although Chang does not explicitly teach MAC PDUs associated to other RLC procedures, which are not reset, and remaining in the soft buffer, reordering buffer in the mobile terminal and in the priority queue in the base station are not flushed, there are several RLC procedures for the mobile terminal in the invention of Sarkkinen. Thus in the combination of the two inventions, only one RLC procedure or buffer is reset and it would be obvious to one of ordinary skill in the art that since there are several RLC buffers for a particular mobile, and only one of the buffers needs to be reset, the other buffers do not need to be reset thus teaching the limitations of the claim.

Regarding claim 16, Chang teaches the RLC reset procedure is initiated upon occurrence of unrecoverable protocol error or upon reaching a predetermined number of retransmissions or upon transmitting a discard notification for a predetermined number of times (paragraph 76).

Regarding claim 17, Chang teaches the MAC reset procedure is carried out at the base station and the mobile terminal (paragraph 79).

Regarding claim 18, Chang teaches the MAC reset procedure in the base station is initiated by a MAC release request message sent by the RNC (paragraph 76).

Regarding claim 19, Chang teaches the MAC reset procedure in the mobile terminal is initiated by a channel reconfiguration message included in a radio resource control (RRC) protocol sent from the RNC to the mobile terminal (paragraph 76, RLC reset PDU).

Regarding claim 20, Chang teaches the MAC reset procedure in the mobile terminal is initiated by a reset request primitive sent from the receiving RLC entity to the

receiving MAC entity upon receiving a RLC RESET protocol data unit PDU (paragraph 76).

Regarding claim 21, Chang teaches the radio network is the UMTS terrestrial radio access network (UTRAN) using high speed downlink packet access HSDPA for data transmission (paragraph 49).

Regarding claim 22, Chang teaches the RLC procedure and MAC procedure transmit protocol data units (PDUs) over the network employing a hybrid automatic repeat request HARQ protocol where erroneous packets are stored for subsequent combining (paragraphs 8, 9).

Regarding claim 23, Chang teaches wherein remaining RLC PDUs stored in a priority queue at a base station are not transmitted once an RLC reset procedure has been invoked (paragraph 76, suspending HARQ).

Regarding claim 24, Chang teaches the MAC PDUs contain a reset identification (RID) field comprising logical channel identification (paragraph 74).

Regarding claim 25, Sarrkinen teaches the MAC reset procedure with partial priority queue flush in the base station is initiated when receiving a MAC PDU with predefined inband identification and RID field (paragraph 117).

Regarding claim 26, Chang teaches the MAC reset procedure with partial priority queue flush in the base station is initiated when receiving a MAC release request message with RID field (signaling indication) as an information element (paragraph 82).

Regarding claim 27, Chang teaches the radio network is the UMTS terrestrial radio access network using enhanced uplink dedicated channel (EUDCH) access

employing HARQ protocol where erroneous packets are stored for subsequent combining (paragraphs 8,9).

Response to Arguments

4. Applicant's arguments filed 11/24/08 have been fully considered but they are not persuasive.

Applicant asserts that modifying Sarkkinen's system to incorporate Chang's RLC reset procedure would cause a MAC reset to delete all MAC PDUs associated with a MAC procedure instead of only deleting MAC PDUs associated to a respective RLC procedure while retaining MAC PDUs to other RLC procedures as required by claim 15. The Examiner respectfully disagrees and would like to further clarify the position taken with respect to the combination of the two inventions. The combination of Sarkkinen and Chang is the system of Sarkkinen combined with the RLC reset teachings of Chang. With reference to figure 12 of Sarkkinen, a MAC procedure is illustrated with respect to UEz comprising a RLC procedure with buffer v and a RLC procedure with buffer u, thus two RLC procedures are shown. In modifying the system of Sarkkinen to include the RLC reset teachings of Chang, only the PDUs associated with either one of the procedures is reset. For instance, if a RLC reset for buffer v is initiated, the MAC PDUs associated with this RLC procedure would be deleted, while the MAC PDUs in buffer u would be maintained. Therefore the MAC PDUs associated with the reset RLC, or buffer v, are deleted whereas MAC PDUs not associated with the reset RLC buffer, or buffer u, are maintained which renders the subject claim limitations.

Applicant asserts that the combination of Sarkkinen and Chang does not explicitly teach that the MAC reset procedure with partial priority queue flush in the base station is initiated when receiving a MAC PDU with predefined inband identification and a reset identification (RID) field comprising logical channel information. The Examiner respectfully disagrees and asserts that this limitation is taught by Chang in figure 15, which is an illustration of a MAC signaling message, or PDU, for transmitting a MAC reset. The UE-ID field renders the predefined inband identification, the signaling indication renders the reset identification field, and the C/T field renders the logical channel identification (paragraphs 81 and 82). It appears that the logical channel identification is a component of the reset identification (RID) field based on the specification; however the claim as written does not necessitate this interpretation. The above mappings of the limitations to the MAC signaling message of Chang are under the assumption that the MAC PDU consists of predefined inband identification, a RID field, and logical channel information.

5. Applicant's arguments with respect to claim 26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

NTH
2/6/09